



City of Seattle
Seattle Public Utilities

Date: July 1, 2014

To: SEPA File: Eastside Reservoir Repairs Project

From: Alex Chen, SPU Project Manager *AKC*
Clay Antieau, SPU Environmental Permitting Specialist

Subject: Exemption from SEPA Threshold Determination Requirements

cc: Nancy Ahern, Acting Director, Drinking Water Division

BACKGROUND

Seattle Public Utilities (SPU) owns the Eastside Reservoir, a 32 million gallon (MG) buried pre-stressed (vertical tendons and circumferential wire-wrapping) concrete structure constructed in the late 1980s. The Reservoir is located on an 8.8 acre tax parcel (#1524059013) immediately south of Eastgate Park in the Eastgate neighborhood of the City of Bellevue (Figure 1). There is no street address for this parcel.

This is an unusual structure for SPU, being relatively deep for an SPU concrete reservoir (about 55-feet deep near the bottom of the floors). It also has a partial-height center divider wall about 20 feet high relative to the bottom of the floors, unlike most other SPU circular pre-stressed concrete reservoirs that have no internal walls. It is also one of only a few SPU circular pre-stressed concrete reservoirs that are buried, including View Ridge and Magnolia reservoirs (which are much smaller).

Pre-stressed concrete reservoirs are typically built above-grade so that exterior shotcrete, floor-to-wall joints, and roof-to-wall joints can be easily inspected. The joints should be inspected because they are designed to move, complete with neoprene bearing pads at the interface surfaces that are designed to take the load of the surfaces bearing on each other. The exterior shotcrete should be inspected because it protects the circumferential wire-wrapping; if the wrapping is subjected to moisture and corrodes then it may be subject to failure ("unwinding" of the wire-wrapping) and potential structural failure. In contrast, a cast-in-place concrete structure has floor-to-wall and wall-to-roof joints that are not designed to move (fixed joint with adequate concrete and rebar to resist movement) and has no pre-stressed wire and shotcrete.

Eastside Reservoir has been exhibiting a number of problems requiring action. The longest-term issue is excessive leakage out of the reservoir. Historical leakage is about 64 gallons per minute (gpm), compared to the American Water Works Association standard equating to 11 gpm for a similarly sized reservoir. Leakage is a concern because high amounts of flow may eventually undermine the subgrade beneath the floor. Additionally, the underdrain water is piped to a local creek. The underdrain water

Received

Ray Hoffman, Director
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124-4018

FEB - 4 2015

Permit Processing

Tel (206) 684-5851
Fax (206) 684-4631
TDD (206) 233-7241
ray.hoffman@seattle.gov
<http://www.seattle.gov/util>

must be dechlorinated, causing SPU to pay for both dechlorination chemicals and staff labor. Leakage also wastes about 100,000 gallons/day of treated water.

A more recent issue involves roof drainage. Most of SPU's buried reservoirs are concrete, with a waterproofing membrane applied to the roof before placement of drain rock and soil cover. Larger reservoirs typically also have a combination of roof drain pipes and a sloped roof (1% minimum, 2%+ much better) for shedding rainwater. Eastside Reservoir has no waterproofing layer, no drain pipes, and a 1% slope. Typically, rainwater ponds in several places above the reservoir. Water penetrates the roof into the drinking water below, as evidenced by stalactites inside the reservoir. The poor roof drainage and water permeation through the roof present water quality issues and may present a long-term structural issue (due to rebar corrosion).

The reservoir's roof-to-wall joint is unusual; most circular pre-stressed concrete reservoirs have a flat horizontal joint with a bearing pad between the roof and wall that allows the roof to expand and contract radially on top of the wall. The Eastside Reservoir includes a joint designed in the shape of a square wave (like the crenellations atop a castle turret). This design allows radial movement of the roof while the stepped vertical/horizontal components resist lateral movements from a seismic event. The joint is called out as having a bearing pad for the horizontal surfaces and filler material in the vertical surfaces. However, SPU has noted discolorations of the walls under the roof-to-wall joint, indicating that groundwater/rainwater is entering the reservoir through the roof-to-wall joint. This water intrusion presents a water quality issue.

SUMMARY OF PROPOSED PROJECT ACTION

SPU is proposing to conduct repairs to the Eastside Reservoir to address these problems. Leakage from the Reservoir would be addressed by draining the structure; inspecting joints, seals, and cracks; and then making the required repairs which would include, but not be limited to, injecting epoxy grout, replacing seals, and applying new sealant materials.

Roof drainage would be improved by re-grading the areas of rutted ground above the roof, along with selective drainage improvements. Specific selective improvements include, but may not be limited to, digging a drain trench around the south perimeter of the reservoir. The south half of the reservoir receives surface drainage from the south hillside, with only a very shallow ditch to intercept it. The absence of drainage infrastructure here results in standing water on the south half of the reservoir. The drain trench would be filled with drain rock and could be integrated with a solution to fix the roof-to-wall leakage (described below). In addition, strip drains (drainage membranes) would be installed near the reservoir's north perimeter.

The leaking roof-to-wall joint must be repaired soon due to potential water quality issues. SPU would design and install a repair that would involve trenching to expose the roof-to-wall joint from the exterior. Drain pipes would be installed in the bottom of the trench and connected to local surface drainage infrastructure. In addition, the exposed neoprene pads covering the joint would be replaced or repaired and then covered with a vertical drainage mat or waterproof membrane. The trench would then be backfilled with drain rock.

This work is currently scheduled to begin in summer 2015 and be completed in three to four months.

DETERMINATION

This proposed action is exempted from threshold determination requirements under provisions of SEPA as established by RCW 43.21C, WAC 197-11-800(3), and Bellevue Municipal Code (BMC 22.02.032). Specifically, this project is exempt per WAC 197-11-800(3) (repair, remodeling, and maintenance activities). No part of the work would be conducted on lands covered by water.

Portions of the work may be located in an Environmentally Critical Area as mapped by the City of Bellevue, including steep slopes and their buffers and/or the buffers of nearby Sunset Creek (Figure 2). However, the proposed work does not fall within one of the exceptions to SEPA exemption identified in BMC 22.02.032.

The proposed action will comply with requirements of other applicable permits and approvals. Should the proposed action change such that it is no longer considered exempt from SEPA, then the proposed action will be re-examined to determine the appropriate level of SEPA review or whether SEPA exemption provisions apply.

SIGNATURE: SEPA Responsible Official

As the SEPA Responsible Official for Seattle Public Utilities, I have reviewed the project information presented to me and I concur this project is categorically exempt for the reasons described above. If needed, the following text should be entered in the Environmental Review block in the Stage Gate 3 form: *"The proposed work is categorically exempt from a SEPA threshold determination, as determined by the SEPA Responsible Official on July 1, 2014."*



Betty Meyer
SEPA Responsible Official



Date

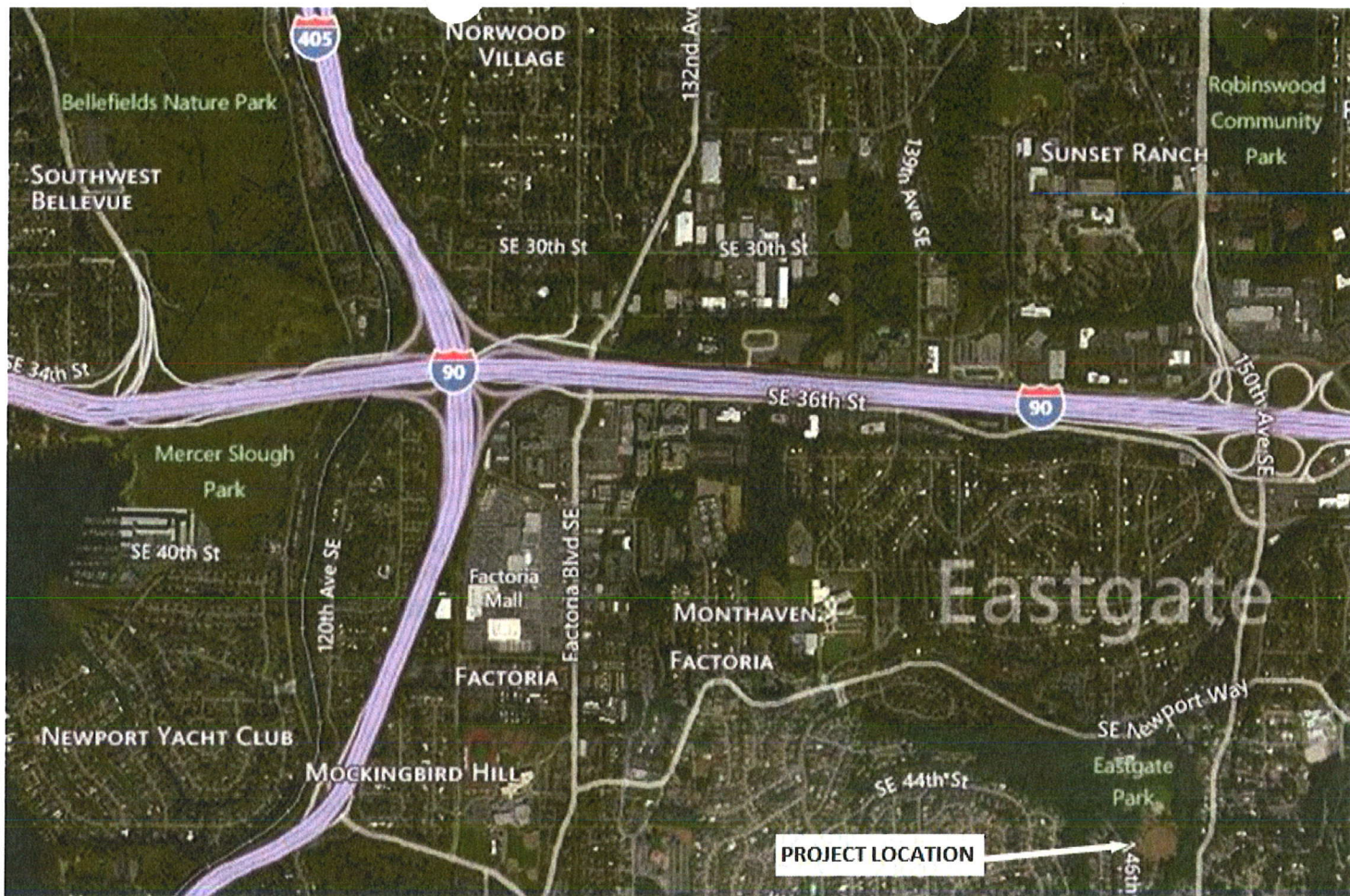


Figure 1. Vicinity map for Eastside Reservoir Repairs Project.

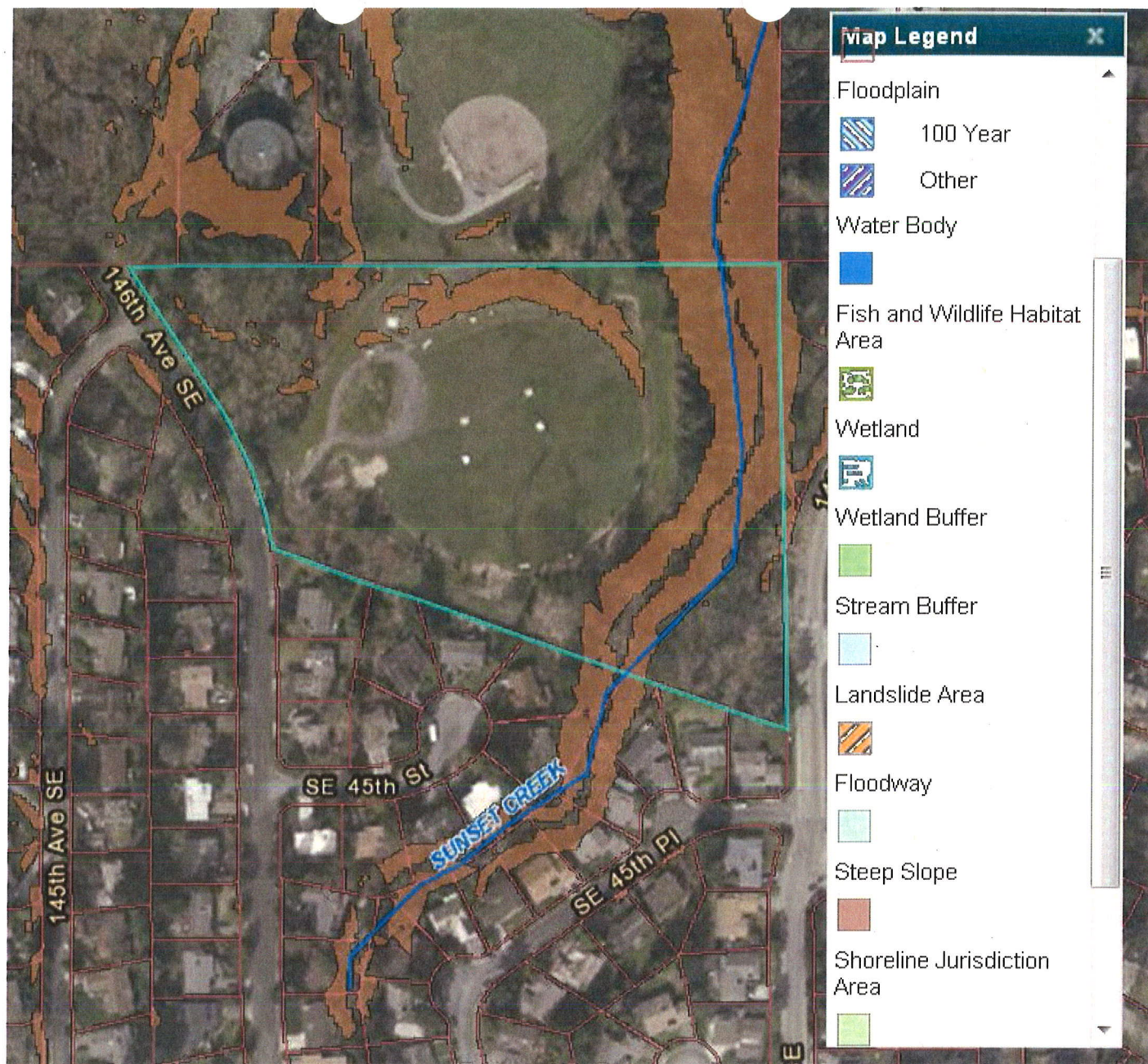
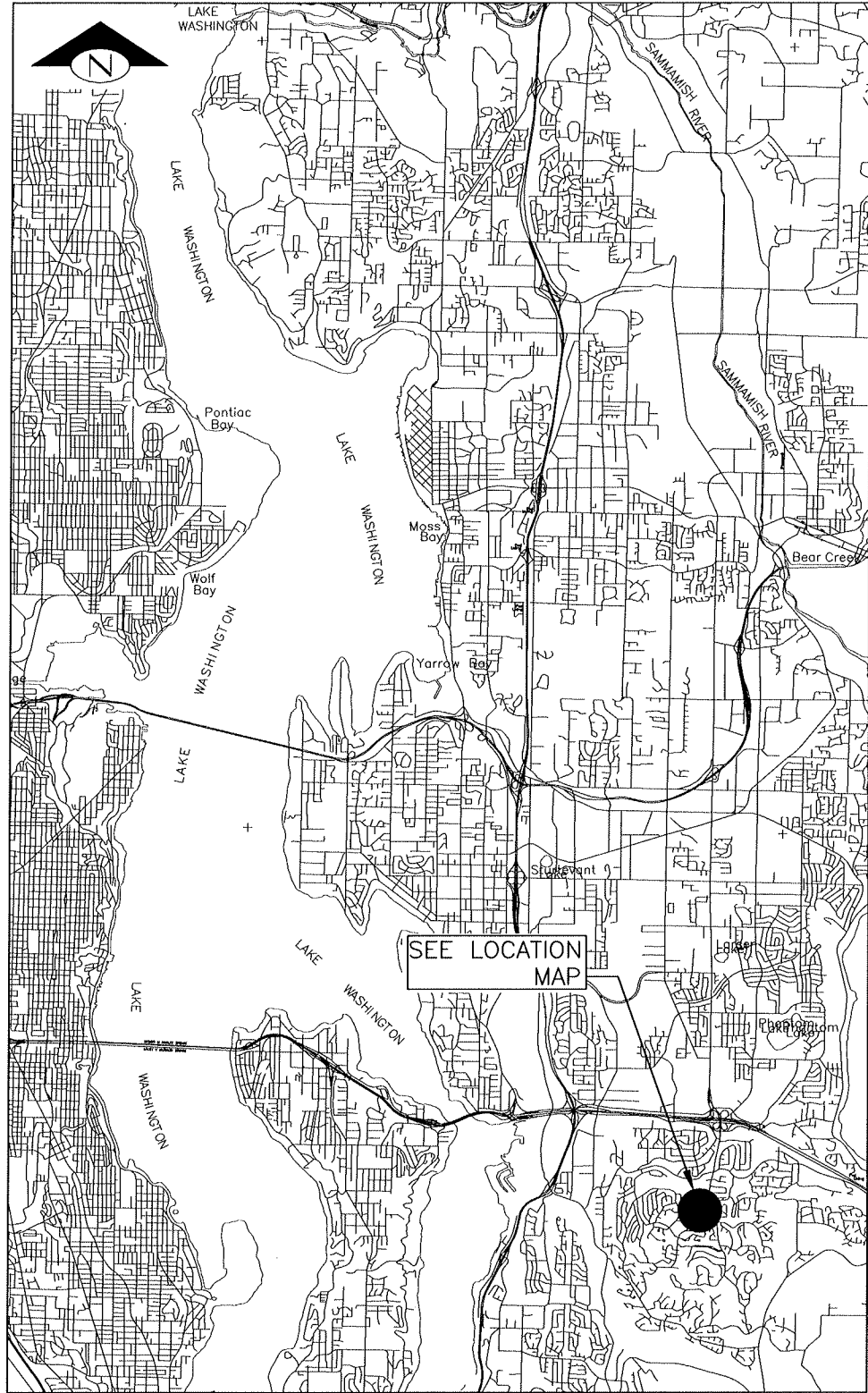
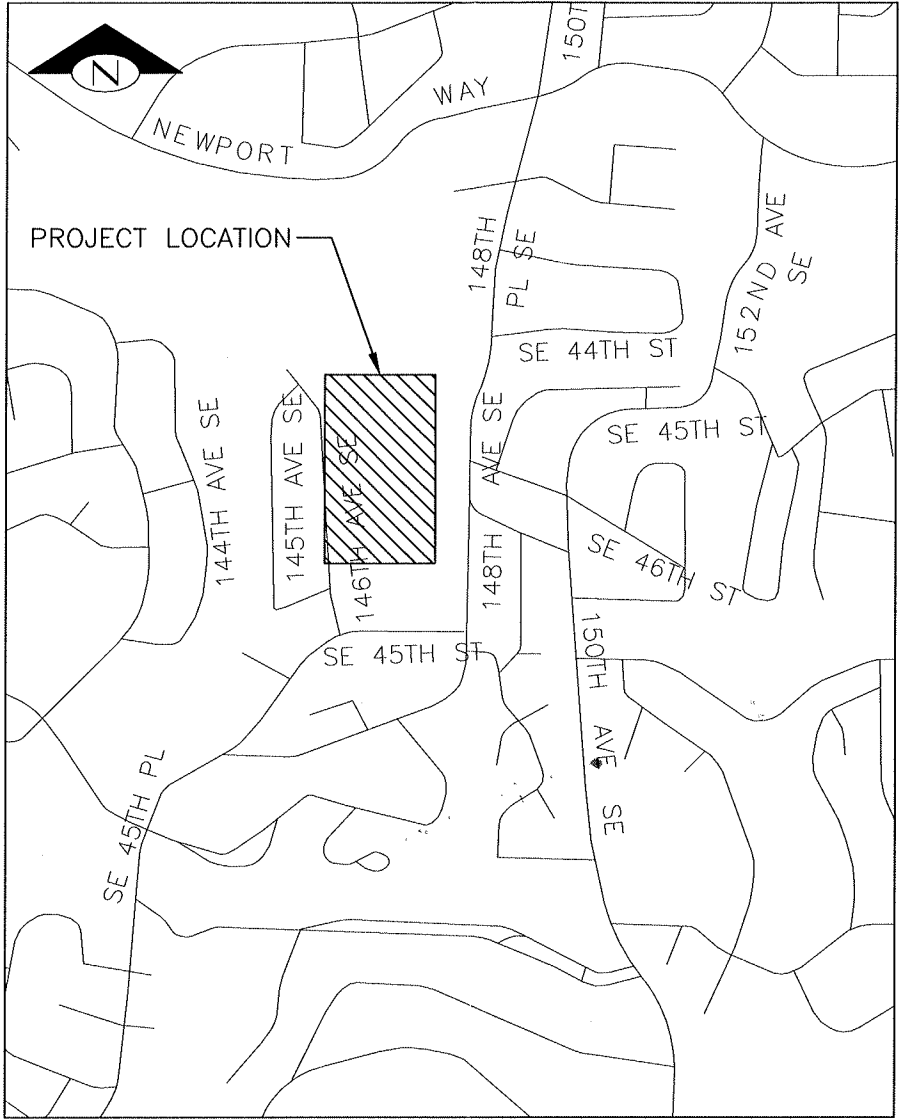


Figure 2. Location map for environmentally critical areas associated with the parcel on which the Eastside Reservoir Repairs Project is located. The subject parcel is outlined in light blue. The outline of the buried reservoir is visible.

VAULT SERIAL NO.	DATE	MARK	NATURE	REVISIONS	MADE CHKD REVD
36338					

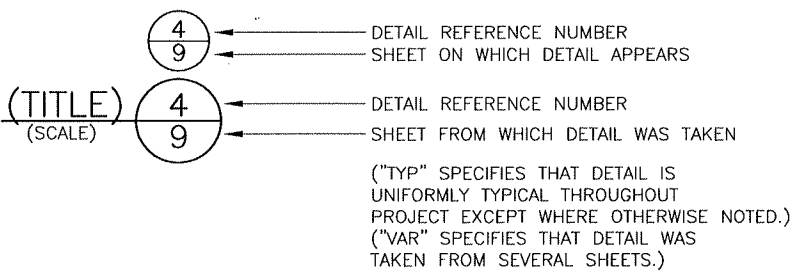


VICINITY MAP
SCALE: 1" = 1 MILE



LOCATION MAP
SCALE: 1" = 500'

DETAIL AND SECTION REFERENCING



SECTION A-A
30 ← SECTION A-A IS TAKEN FROM SHEET 30.

GENERAL NOTES

UNLESS OTHERWISE NOTED:

1. ALL WORK SHALL CONFORM TO THE 2014 EDITION OF THE CITY OF SEATTLE STANDARD SPECIFICATIONS AND THE 2014 EDITION OF THE CITY OF SEATTLE STANDARD PLANS; A COPY OF THESE DOCUMENTS SHALL BE ON SITE DURING CONSTRUCTION.
2. A COPY OF THE APPROVED PLAN MUST BE ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. THE CONTRACTOR SHALL SUBMIT ALL APPLICABLE DOCUMENTS REQUIRED UNDER SECTION 1-05.3 OF THE STANDARD SPECIFICATIONS PRIOR TO CONSTRUCTION. A MATERIAL SOURCE FORM FOR ALL MATERIALS MUST BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION. A REVISED MATERIAL SOURCE FORM MUST BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF ANY SUBSTITUTE MATERIALS.
4. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL CASTINGS AND UTILITIES DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITIES LOCATOR SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
6. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.
7. NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.
8. ALL SURVEYING AND STAKING OF IMPROVEMENTS IS TO BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, IN ACCORDANCE WITH COS STANDARDS.
9. INSPECTION AND ACCEPTANCE OF ALL WORK WILL BE ACCOMPLISHED BY ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND SCHEDULE APPROPRIATE INSPECTIONS, ALLOWING PROPER ADVANCE NOTICE. THE ENGINEER MAY REQUIRE RECONSTRUCTION, AT CONTRACTOR'S EXPENSE, OF ITEMS THAT DO NOT MEET CITY STANDARDS OR THAT WERE CONSTRUCTED WITHOUT INSPECTION.
10. THE REQUIREMENTS OF THIS PLAN ARE THE MINIMUM REQUIREMENTS. THEY DO NOT REPLACE, REPEAL, ABROGATE, SUPERSEDE, OR AFFECT ANY OTHER MORE STRINGENT REQUIREMENTS, RULES, REGULATIONS, STANDARDS, OR RESTRICTIONS.
11. THE REFUSE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF BY THE CONTRACTOR PER COS SPECIFICATIONS SECTIONS 1-07.3. IN NO CASE SHALL REFUSE MATERIAL BE LEFT ON THE PROJECT PROPERTY, PLACED ON ABUTTING PROPERTIES, OR BURIED IN EMBANKMENTS OR TRENCHES.

SHEET INDEX

SHT NO.	SHEET DESCRIPTION
1	VICINITY MAP, LOCATION MAP, NOTES, DETAIL AND SECTION REFERENCING, AND DATUM
2	NOTES
3	SLOPE CATEGORIES
4	CSEC, DEMOLITION AND PROTECTION PLAN
5	DRAINAGE SITE PLAN
6	DETAILS
7	DETAILS

Received

FEB - 4 2015

Permit Processing

VICINITY MAP, LOCATION MAP, NOTES, DETAIL
AND SECTION REFERENCING, AND DATUM

90% DESIGN (NOT FOR CONSTRUCTION)

APPROVED FOR ADVERTISING
NANCY LOCKE
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON 20
BY: PURCHASING & CONTRACTING SERVICES DIRECTOR

NAME OR INITIALS AND DATE
DESIGNED
CHECKED
DRAWN
CHECKED
INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.



Seattle Public Utilities
City of Seattle
Ray Hoffman, Director
ORDINANCE NO. APPROVED
FUND: INSPECTOR'S BOOK
SCALE: AS NOTED

EASTSIDE RESERVOIR
DRAINAGE IMPROVEMENTS

PC C114059
R/W
CO 261-904
VAULT PLAN NO.
777-840
SHEET 1 OF 7

UNLESS OTHERWISE NOTED

- UNLESS OTHERWISE NOTED

- THE FOLLOWING CONSTRUCTION SEQUENCE PROVIDES A CONCEPTUAL APPROACH TO THE CONSTRUCTION ACTIVITIES REQUIRED BY THIS PROJECT. THE CONTRACTOR IS REQUIRED TO SUBMIT A MORE DETAILED CONSTRUCTION SCHEDULE AS PART OF THE CSEC PLAN AS DEFINED IN THE CONTRACT DOCUMENTS. THE SEQUENCE OF CONSTRUCTION INCLUDES PRECONSTRUCTION ACTIVITIES AND CSEC CONSTRUCTION.

1. PREPARE CESP PLAN (SPECIFICATION SECTION)
2. PREPARE SPILL PREVENTION, CONTROL AND COUNTER MEASURE PLAN (SPECIFICATION SECTIONS)
3. PREPARE DEWATERING PLAN (SPECIFICATION SECTION)
4. ATTEND PRECONSTRUCTION CONFERENCE.

1. CLEARLY FLAG THE LIMITS OF CONSTRUCTION SHOWN ON THE DRAWINGS AND ESTABLISH STAGING AREA LIMITS.
2. WITHIN THE LIMITS OF CONSTRUCTION, FLAG ALL TREES TO BE SAVED AND OTHER VEGETATION TO REMAIN UNDISTURBED FOR THE APPROVAL OF THE ENGINEER.
3. CONSTRUCT ACCESS ROAD(S) AND INSTALL TIRE WASH(ES) OR BMPs TO PREVENT TRACKING DIRT OFFSITE.
4. INSTALL ALL OTHER TEMPORARY BMPs FOR EROSION CONTROL, INCLUDING FUGITIVE DUST CONTROL MEASURES AS APPLICABLE.
5. PERFORM SITE GRADING AND LANDSCAPING.
6. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS.
7. PERFORM FINAL CLEAN UP.
8. REMOVE AND DISPOSE OF CSEC BMPs.

1. WASHINGTON STATE DEPARTMENT OF ECOLOGY 2012 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON : VOLUME IV—SOURCE CONTROLS BMP'S. WEB SITE:
<http://www.ecy.wa.gov/programs/wq/stormwater/manual.html>

UNLESS OTHERWISE NOTED:

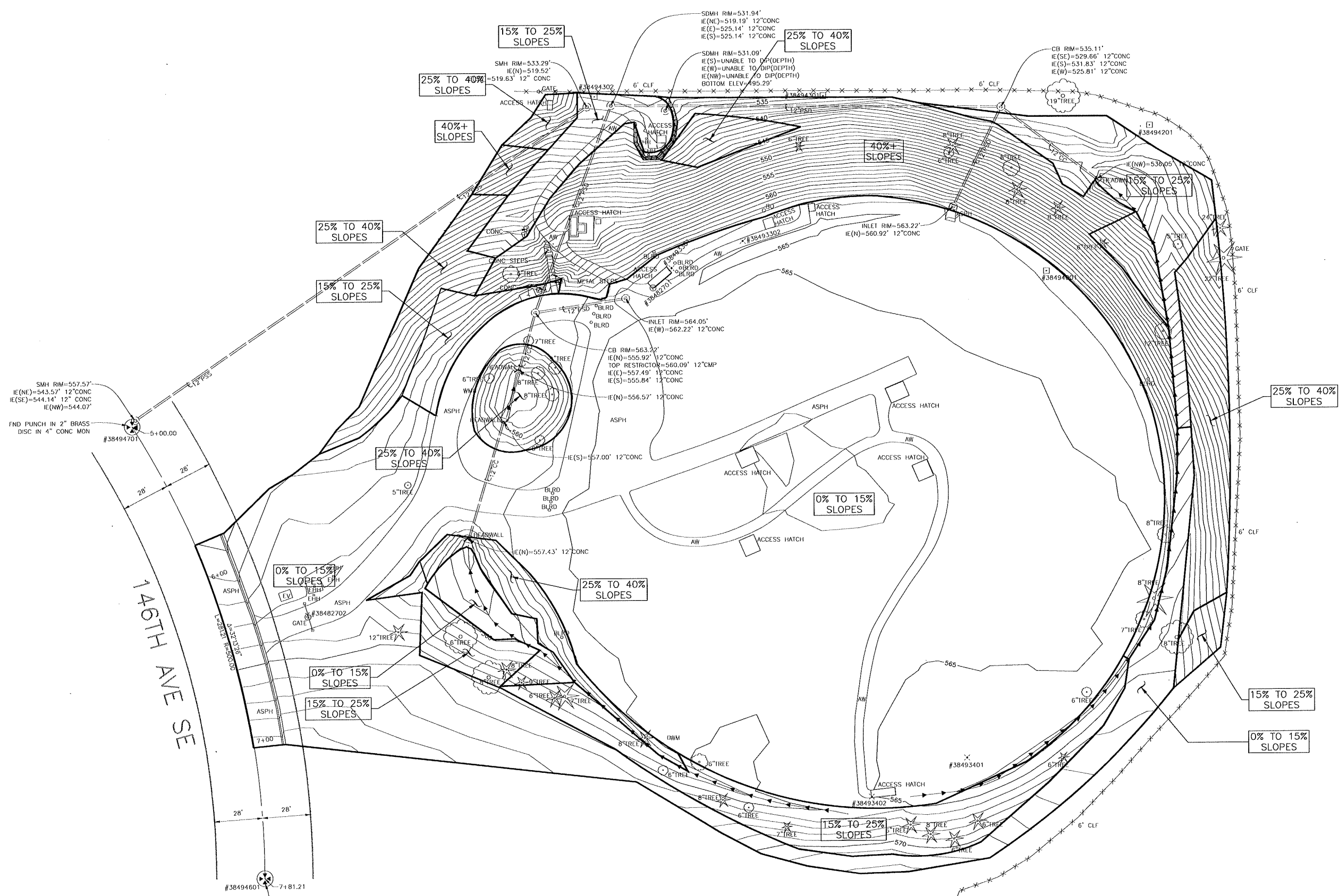
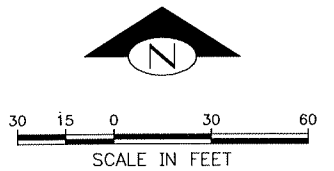
- UNLESS OTHERWISE NOTED:

- ## NOTES

PC	C114059
R/W	
CO	261-904
VAULT PLAN NO.	
777-840	
SHEET	2 OF 7

APPROVED

INSPECTOR'S BOOK



90% DESIGN (NOT FOR CONSTRUCTION)

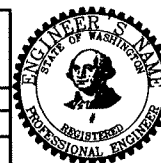
APPROVED FOR ADVERTISING
NANCY LOCKE
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON 20

BY: PURCHASING & CONTRACTING SERVICES DIRECTOR

INITIALS AND DATE
DESIGNED
CHECKED
DRAWN
CHECKED

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT



Seattle Public Utilities
City of Seattle
Ray Hoffman, Director
ORDINANCE NO. Ordinance Number
FUND: Fund
SCALE: 1"=30'
APPROVED
INSPECTOR'S BOOK

EASTSIDE RESERVOIR DRAINAGE IMPROVEMENTS

SLOPE CATEGORIES

PC C114059
R/W
CO 261-904
VAULT PLAN NO.
777-840
SHEET 3 OF 7

Received
FEB - 4 2015

Permit Processing

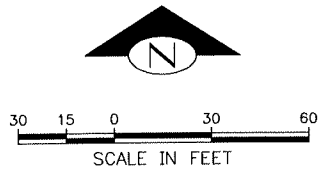
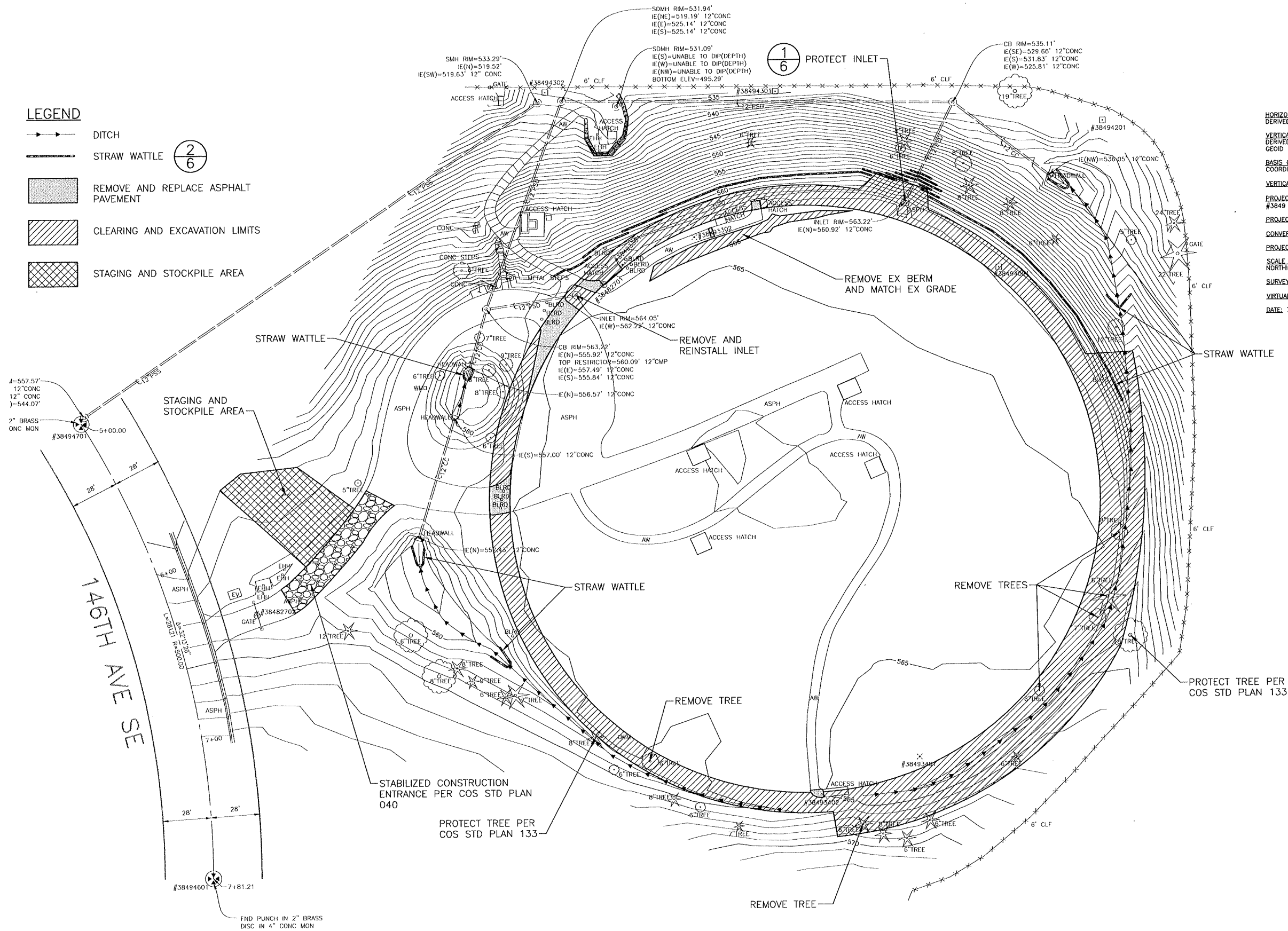
DATE	REVISIONS
1/15/15	MADE CHK'D REV'D
1/15/15	NATURE
1/15/15	DATE
1/15/15	MARK
1/15/15	NO.
1/15/15	36338
1/15/15	VAULT

regard Jan-30-15 9:03am

LEGEND

- DITCH
- STRAW WATTLE
- REMOVE AND REPLACE ASPHALT PAVEMENT
- CLEARING AND EXCAVATION LIMITS
- STAGING AND STOCKPILE AREA

2/6



HORIZONTAL DATUM: NAD83-2011 EPOCH 2010.00
DERIVED FROM THE WSRN AND NGS CORRS

VERTICAL DATUM: THE VERTICAL DATUM IS NAVD88
DERIVED FROM THE WSRN AND NGS CORRS USING
GEOID 12A

BASIS OF BEARING: WASHINGTON STATE PLANE
COORDINATE SYSTEM, NORTH ZONE

VERTICAL BENCHMARKS: #204A, #38482701

PROJECT FIELD BOOK: #3848 PG 27,
#3849 PGS 36-53

PROJECT SCALE FACTOR: 0.999988271

CONVERGENCE ANGLE: -0°58'37.62151"

PROJECT COMBINED GRID FACTOR: 0.999964982

SCALE FACTOR BASIS:
NORTHING: 209377.62 EASTING: 1316430.98

SURVEY PROJECT FOLDER NUMBER: 261-894

VIRTUAL VAULT PLAN NUMBER: N/A

DATE: 7-1-2014

PROJECT NUMBER: C114059

PROJECT NAME: EASTSIDE RESERVOIR
SURFACE SURVEY

SURVEY PROJECT FOLDER NUMBER: 261-894

RESEARCH FIELD BOOKS:

REFERENCE DOCUMENTS: N/A

DATE: 7-1-2014

PRJ SURVEYOR: R. BYARLAY

PRIMARY CREW: E. JOHNSON

OFFICE TECH: S. LAW/W. CHOATE

R/W CREATED BY: N/A

GEOREGISTRATION NOTES:

COMMENTS:

NOTES:

FIELD MEASUREMENTS FOR THIS SURVEY PERFORMED WITH A 1" LEICA
TOTAL STATION USING TRAVERSE METHODS THAT MEET OR EXCEED
ACCURACY REQUIREMENTS CONTAINED IN WAC 332.130.090.

THIS SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF A CURRENT
TITLE REPORT AND THEREFORE DOES NOT PURPORT TO SHOW ALL
EASEMENTS OR RESTRICTIONS OF RECORD, IN ANY.

#204A(CITY OF BELLEVUE): FND MIC IN
CENTERLINE OF 148TH AVE SE, 75' SOUTH OF
SE 46TH PL
ELEV=650.14

#38482701: FND 2"DOMED BRASSIE SET IN
TOP OF 14.5' X 4.5' VAULT LID ON NORTH
SIDE OF EASTSIDE RESERVOIR @ TOP OF HILL
ELEV=565.18

Received

FEB - 4 2015

Permit Processing

90% DESIGN (NOT FOR CONSTRUCTION)

CSEC, DEMOLITION AND PROTECTION PLAN

APPROVED FOR ADVERTISING
NANCY LOCKE
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON 20

BY:
PURCHASING & CONTRACTING SERVICES DIRECTOR

INITIALS AND DATE

DESIGNED
CHECKED

DRAWN
CHECKED

INITIALS AND DATE

REVIEWED:
DES. CONST.
SDOT PROJ. MGR.

RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND
SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.



Seattle
Public
Utilities

City of Seattle
Ray Hoffman, Director

ORDINANCE NO. Ordinance
FUND: Fund Number

APPROVED
INSPECTOR'S BOOK

SCALE: 1"=30'

EASTSIDE RESERVOIR
DRAINAGE IMPROVEMENTS

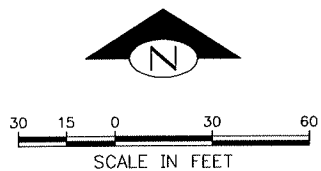
NO. PC C114059
JOB R/W
CO 261-904
VAULT PLAN NO.
777-840
SHEET 4 OF 7

NOTES

1. THE CONTRACTOR IS LIMITED TO 100 PSF LOADING ON TOP OF THE RESERVOIR DURING CONSTRUCTION.

LEGEND

- PD PERIMETER DRAIN (8" HDPE SDR 21, SLOTTED PER COS STD PLAN 291)
- RD ROOF DRAIN (6" HDPE SDR 21, SLOTTED PER COST STD PLAN 291)
- PERIMETER DRAIN INVERT ELEVATION (SEE TABLE)
- DITCH



HORIZONTAL DATUM: NAD83-2011 EPOCH 2010.00
DERIVED FROM THE WSRN AND NGS CORRS

VERTICAL DATUM: THE VERTICAL DATUM IS NAVD88
DERIVED FROM THE WSRN AND NGS CORRS USING
GEOID 12A

BASIS OF BEARING: WASHINGTON STATE PLANE
COORDINATE SYSTEM, NORTH ZONE

VERTICAL BENCHMARKS: #204A, #38482701

PROJECT FIELD BOOK: #3848 PG 27,
#3849 PGS 36-53

PROJECT SCALE FACTOR: 0.999988271

CONVERGENCE ANGLE: -0°58'37.62151"

PROJECT COMBINED GRID FACTOR: 0.999964982

SCALE FACTOR BASIS:
NORTHING: 209377.62 EASTING: 1316430.98

SURVEY PROJECT FOLDER NUMBER: 261-894

VIRTUAL VAULT PLAN NUMBER: N/A

DATE: 7-1-2014

PROJECT NUMBER: C114059

PROJECT NAME: EASTSIDE RESERVOIR
SURFACE SURVEY

SURVEY PROJECT FOLDER NUMBER: 261-894

RESEARCH FIELD BOOKS:

REFERENCE DOCUMENTS: N/A

DATE: 7-1-2014

PRJ. SURVEYOR: R. BYARLAY

PRIMARY CREW: E. JOHNSON

OFFICE TECH: S. LAW/W. CHOATE

R/W CREATED BY: N/A

GEOREGISTRATION NOTES:

COMMENTS:

NOTES:
FIELD MEASUREMENTS FOR THIS SURVEY PERFORMED WITH A 1" LEICA
TOTAL STATION USING TRAVERSE METHODS THAT MEET OR EXCEED
ACCURACY REQUIREMENTS CONTAINED IN WAC 332.130.090.

THIS SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF A CURRENT
TITLE REPORT AND THEREFORE DOES NOT PURPORT TO SHOW ALL
EASEMENTS OR RESTRICTIONS OF RECORD, IN ANY.

#204A(CITY OF BELLEVUE): FND MIC IN
CENTERLINE OF 148TH AVE SE, 75' SOUTH OF
SE 46TH PL
ELEV=650.14

#38482701: FND 2" DOMED BRASSIE SET IN
TOP OF 14.5' X 4.5' VAULT LID ON NORTH
SIDE OF EASTSIDE RESERVOIR @ TOP OF HILL
ELEV=565.18

MH-2
TYPE 204A
N: 209350.48
E: 1316921.47
IE (N) 556.6
IE (SW) 556.6
RIM 564.80

INVERT ELEVATION TABLE

POINT	NORTHING	EASTING	INVERT EL
1	209,599.89	1,316,833.22	558.24'
2	209,534.56	1,316,902.24	558.72'
3	209,483.77	1,316,922.82	559.00'
4	209,380.33	1,316,915.74	558.47'
5	209,304.00	1,316,859.11	557.99'
6	209,269.41	1,316,780.72	557.60'
7	209,268.5700	1,316,726.30	557.83'
8	209,304.00	1,316,642.28	558.29'
9	209,423.79	1,316,575.06	559.00'
10	209,497.86	1,316,582.48	558.83'
11	209,562.30	1,316,619.74	559.00'
12	209,610.65	1,316,692.98	558.56'

Received
FEB - 4 2015

Permit Processing
DRAINAGE SITE PLAN

90% DESIGN (NOT FOR CONSTRUCTION)

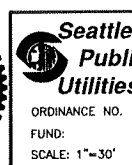
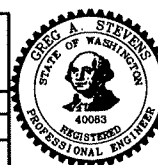
APPROVED FOR ADVERTISING
NANCY LOCKE
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON 20

BY: PURCHASING & CONTRACTING SERVICES DIRECTOR

NAME OR INITIALS AND DATE
DESIGNED
CHECKED
DRAWN
CHECKED

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.
RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND
SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.



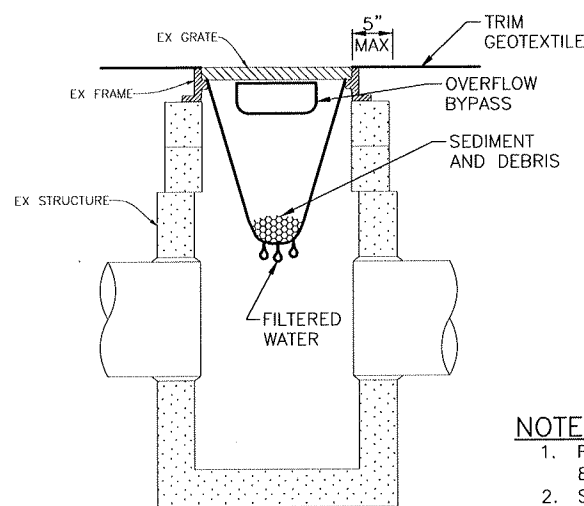
City of Seattle
Ray Hoffman, Director

ORDINANCE NO.
FUND:
SCALE: 1"=30'

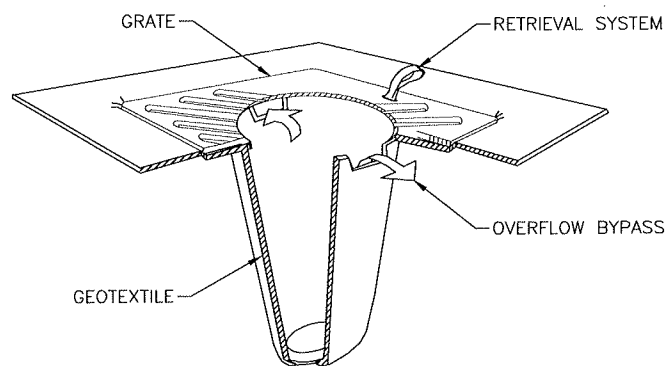
APPROVED
INSPECTOR'S BOOK

EASTSIDE RESERVOIR
DRAINAGE IMPROVEMENTS

PC C114059
R/W
CO 261-904
VAULT PLAN NO.
777-840
SHEET 5 OF 7



CROSS SECTION



ISOMETRIC VIEW

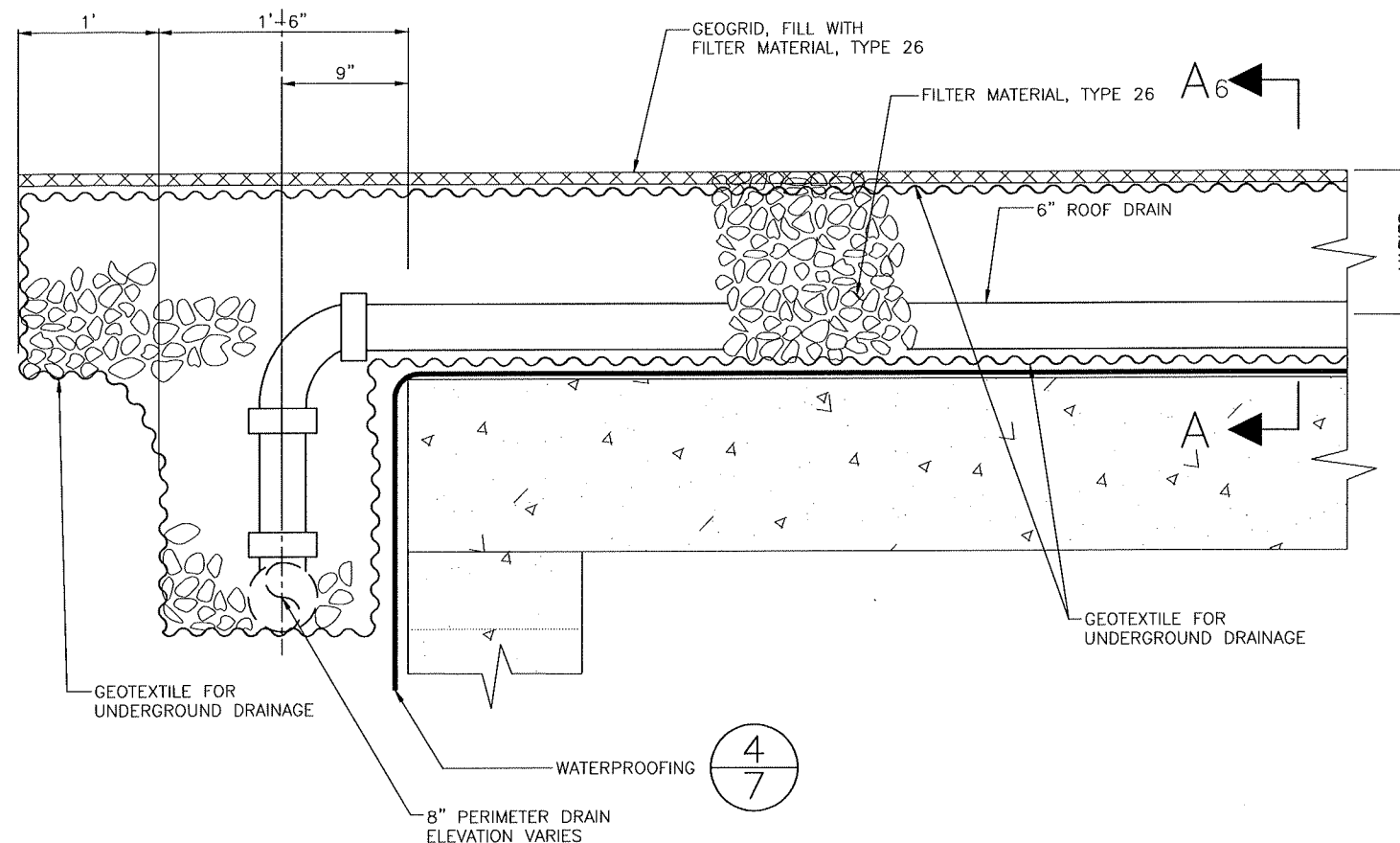
NOTES:

1. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3 (12)B.
2. SIZE THE BELOW GRATE INLET DEVICE (BGID) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
3. THE BGID SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
4. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BGID WITHOUT SPILLING THE COLLECTED MATERIAL.

STORM DRAIN INLET PROTECTION

NTS

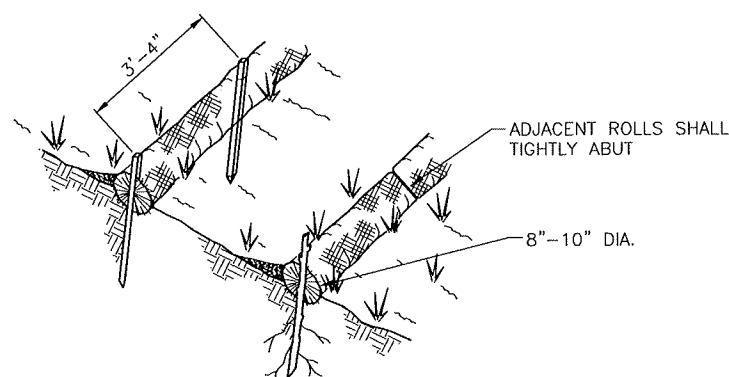
1
5



TYPICAL ROOF AND WALL DRAIN SECTION

NTS

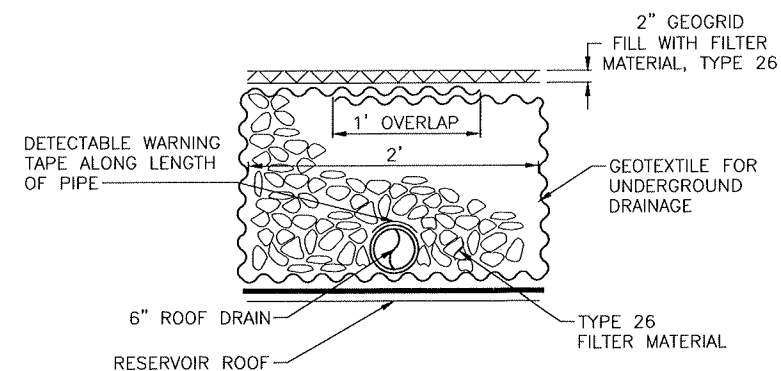
3
5



STRAW WATTLE DETAIL

NTS

2
5



SECTION A-A

NTS

6

Received

FEB - 4 2015

Permit Processing

90% DESIGN (NOT FOR CONSTRUCTION)

APPROVED FOR ADVERTISING
NANCY LOCKE
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON 20

BY:
PURCHASING & CONTRACTING SERVICES DIRECTOR

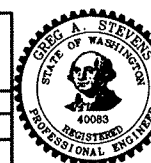
NAME OR INITIALS AND DATE
DESIGNED
CHECKED

DRAWN SHS
CHECKED

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.

RECEIVED
REVISED AS BUILT



Seattle
Public
Utilities
ORDINANCE NO.
FUND:
SCALE: AS NOTED

City of Seattle
Ray Hoffman, Director
APPROVED
INSPECTOR'S BOOK

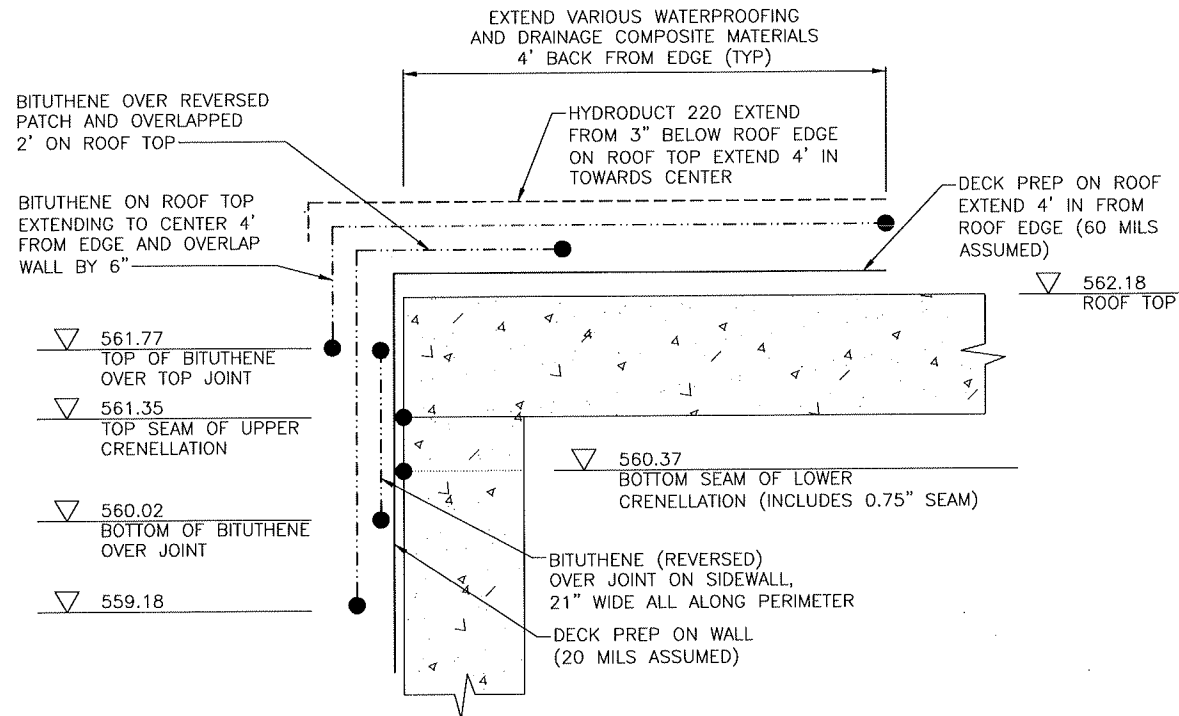
EASTSIDE RESERVOIR
DRAINAGE IMPROVEMENTS

PC C114059
R/W
JOB CO 261-904
VAULT PLAN NO.
777-840
SHEET 6 OF 7

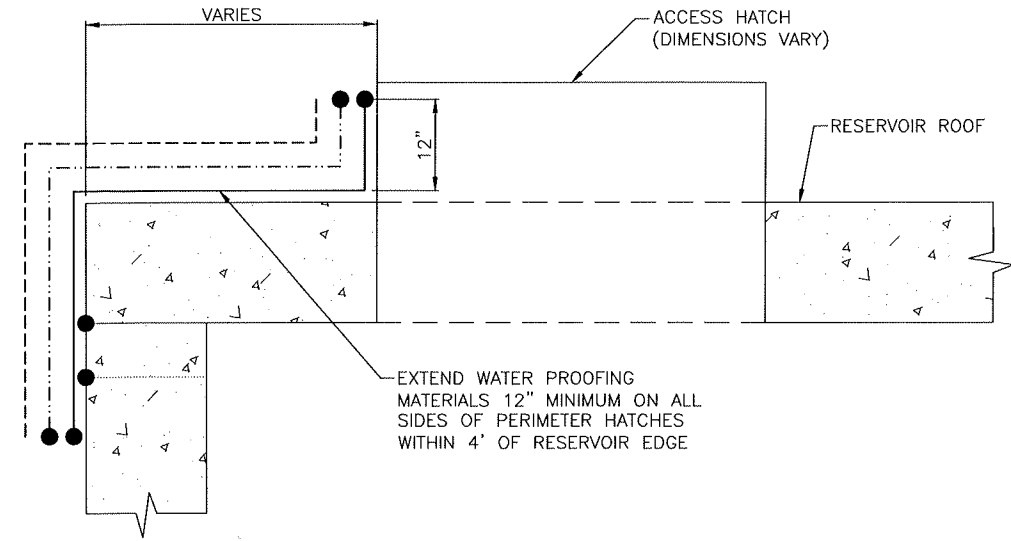
DETAILS

VAULT SERIAL NO. 36338
DATE MARK
NATURE REVISIONS
MADE CHK'D REV'D

regener Jan-30-15 9:04am



WATERPROOFING DETAIL 4
NTS

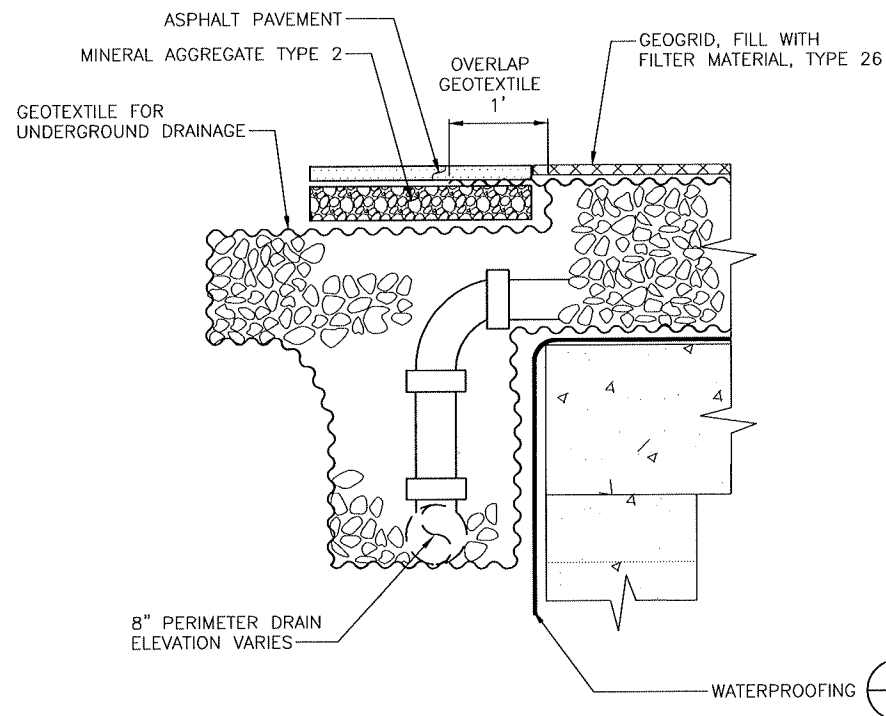


WATERPROOFING AT PERIMETER ACCESS HATCHES 5
NTS

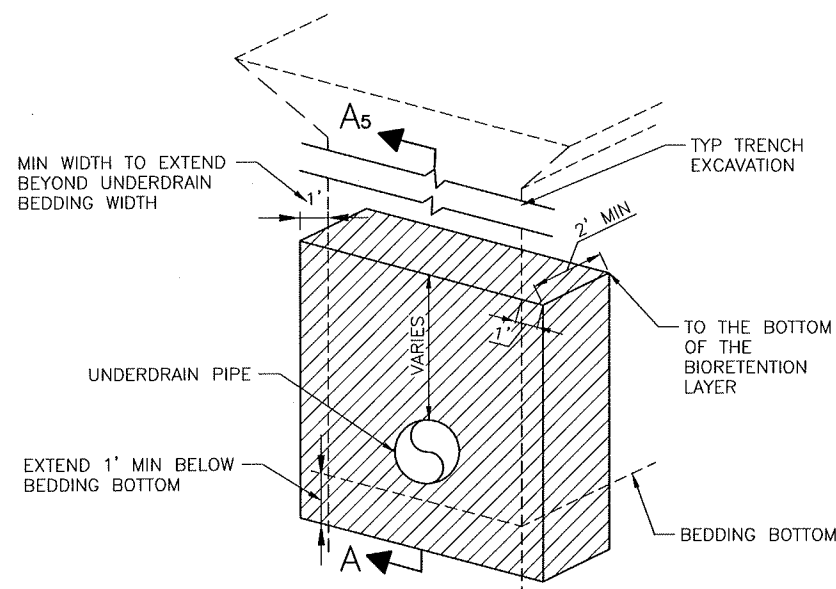
NOTES
1. SEE OTHER DRAWINGS FOR GEOTEXTILE MATERIAL FOR PERIMETER TRENCH.

LEGEND

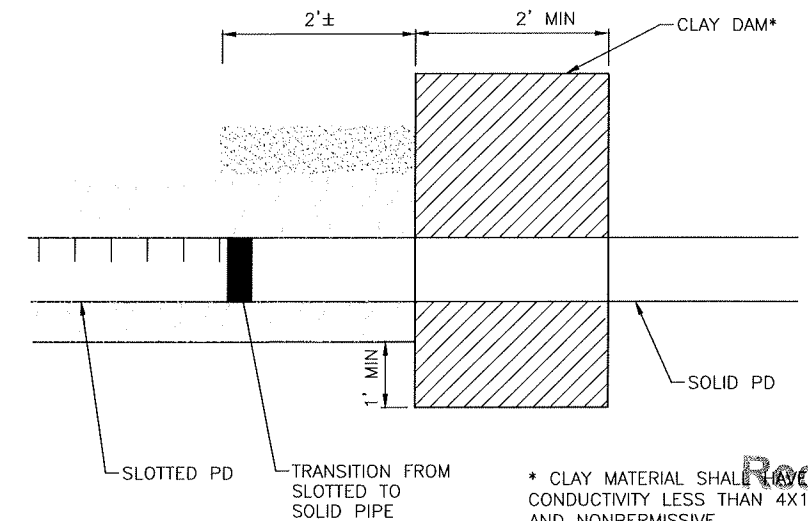
- "LIQUID MEMBRANE" JOINT/EDGE SEALER
- BITUTHENE 3000
- HYDRODUCT 220



WATERPROOFING AT PAVEMENT AREAS 6
NTS



CLAY DAM 7
NTS



SECTION A-A 7
NTS

* CLAY MATERIAL SHALL HAVE CONDUCTIVITY LESS THAN 4×10^{-6} IN/SEC AND NONPERMISSIVE

Received
FEB - 4 2015

90% DESIGN (NOT FOR CONSTRUCTION)

APPROVED FOR ADVERTISING
NANCY LOCKE
DEPARTMENT OF FINANCE & ADMINISTRATIVE SERVICES
SEATTLE, WASHINGTON 20

BY:
PURCHASING & CONTRACTING SERVICES DIRECTOR

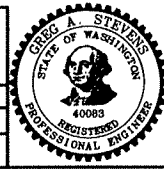
NAME OR INITIALS AND DATE
DESIGNED
CHECKED

INITIALS AND DATE
REVIEWED:
DES. CONST.
SDOT PROJ. MGR.

DRAWN SHS
CHECKED

RECEIVED
REVISED AS BUILT

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF SEATTLE STANDARD PLANS AND SPECIFICATIONS AND OTHER DOCUMENTS CALLED FOR IN SECTION 0-02.3 OF THE PROJECT MANUAL.



Seattle Public Utilities
City of Seattle
Ray Hoffman, Director

ORDINANCE NO.
FUND:
SCALE: AS NOTED

APPROVED
INSPECTOR'S BOOK

EASTSIDE RESERVOIR
DRAINAGE IMPROVEMENTS

PC C114059
R/W
CO 261-904
VAULT PLAN NO.
777-840
SHEET 7 OF 7